

CD-R / DVD-R Solutions for Geographical Information Systems



Young Minds, Inc.
Disc Storage Solutions

Compact Disc-Recordable (CD-R) technology is based on the same international standards that have contributed to the success of CD-ROM. CD-R has become the preferred storage medium for many applications. With a capacity of 650 to 700MB and a cost of about one dollar per disc, CD-R provides the lowest cost per megabyte of any random access writable storage medium. In addition, it is compact, durable, versatile and can be used to reliably archive data for upwards of 100 years. Further, because CD-R is a true write-once medium, it provides legal hardcopy of the information stored.

DVD-R is the larger capacity relative of CD-R. It shares the same physical dimensions (12cm) but provides a higher data density and therefore higher capacity – about 4.7GB. It, too, provides low cost random access to data, is a true write-once medium, and is perfect for long term data archival. Like the read compatibility for CD-R provided by CD-ROM drives, DVD-R can be read back in DVD-ROM drives (CD-R discs can also be read back in DVD-ROM drives).



High definition digital satellite image

Photo courtesy of EarthWatch Incorporated

Features of Benefits of CD-R and DVD-R Technology

Lower costs – Storing digital images on recordable CD or DVD discs lowers archival and distribution costs compared to other write-once random access media.

Cross-platform system support

– Discs can be read by virtually any computer.

No film processing

– recording high definition digital images eliminates film and processing requirements. Storing the images on CD or DVD discs allows fast, easy access to the images.

No special storage requirements

– CD-R and DVD-R discs do not require any special care or environmental safeguards. Since discs are not touched during the read or write process, discs are not subject to wear. Many manufacturers have tested their discs and found that they will still be readable after 100 years or more.

Low cost – CD-R discs are very inexpensive – one dollar or less per disc – with a cost of about 1/10 cent per megabyte.

Young Minds, an early pioneer in CD-R technology, continues to lead in the application of CD-ROM, CD-R, and DVD technologies in GIS, satellite imaging, and other markets.

GIS applications typically involve images, databases, and interrelated data that is layered, or linked together. Since they are random access media, CD-R and DVD-R allow users to quickly and easily move between layers. Many GIS application developers have adopted CD-R as the standard media for data/image archival and distribution, and DVD-R is fast gaining acceptance for GIS applications that generate large files and datasets, such as satellite imaging.



Random access allows links between images and files
Photo courtesy of EarthWatch Incorporated

Young Minds CD-R / DVD-R Solutions

Young Minds is the premier developer of innovative solutions for GIS applications, available for virtually all operating systems and networks.

Young Minds CD- and DVD-Recordable technology is being used by leading GIS developers and information providers. Our solutions are

Copyright © 2000 by Young Minds, Inc. All rights reserved.

Features of Benefits of Young Minds Solutions

Plug-and-Play installation –

Everything you need to start recording discs immediately is included. No additional components are needed, and there are no complex system setup or configuration requirements.

'Future-Proof' Architecture –

Young Minds CD-R and DVD-R systems are based on the Studio Intelligent Controller. The Studio Controller is an elegant solution to the obstacles presented by CD-R/DVD-R technology, and provides the basis for easy upgrades and other changes.

No API – Young Minds controller-based systems and JobTicket technology let you integrate CD-R and DVD-R capabilities into existing applications without the need for reprogramming or extensive integration work.

Automation-Ready – "Lights-out" solutions are easily assembled using CD-Q and Power Studio systems. Power Studio systems include robotic disc loaders/printers for completely automated operation.

Reliable operation – high uptime and no bad-disc generating data underruns are two more compelling reasons to choose Young Minds CD-R and DVD-R solutions.

unmatched for features, reliability, ease of installation, ease of integration, ease of use, compatibility, portability, expandability, and upgradability. Key features include:

- Plug-and-Play CD/DVD-Recording
- Cross-platform system support
- Fast, easy access to images, databases, and other files
- Complete integration support
- Feature-rich premastering software for universal read-compatibility
- "Future-proof" intelligent controller architecture to simplify upgrades and host changes
- Well defined roadmap to preserve hardware and software investments
- Tape emulation technology utilizes native OS drivers, eliminates the need for custom drivers
- Java-based user interface and JobTicket technology simplifies integration

Premastering Software

Young Minds solutions provide CD cross platform compatibility in a more user-friendly and more useable format. ISO 9660, the CD standard, limits UNIX and Windows users to a DOS-type file system (8.3 filename format, eight directory levels, limited character set – upper case letters, numbers, and the underscore character).

MakeDisc premastering software adds Rock Ridge and Joliet extensions, which make the data on CD look the same as the original data in a UNIX and/or Windows computer. MakeDisc understands the semantics of the UNIX/POSIX filesystem, so you can even record symbolic links. MakeDisc also lets you add file name translation tables so platforms that do not understand Rock Ridge or Joliet will still be able to see the original file names.

CD-Q Intelligent Automation Software

CD-Q is a revolutionary new intelligent automation software solution designed to simplify both the integration and usability of CD-R production systems. CD-Q lets you create CDs from any application by simply wrapping a batch file or shell script around the application, or via an easy-to-use dialogue box that makes creating CDs as easy as sending a document to a printer.

JobTicket Technology

CD-Q manages CD-R job requests by building a collection of metadata called a JobTicket.

Every disc production job submitted to CD-Q is defined by a *JobTicket*. A JobTicket is a simple ASCII text file that describes the disc production job to the CD-Q server software.

JobTickets can be created by JobInfo, an intuitive Java or Windows applet that lets any user build a JobTicket with just a few mouse-clicks. JobTickets can also be created through batch files, shell scripts, or third-party application programs.

Much of CD-Q's power and flexibility derives from the simplicity of the JobTicket and the ease with which JobTickets can be created.

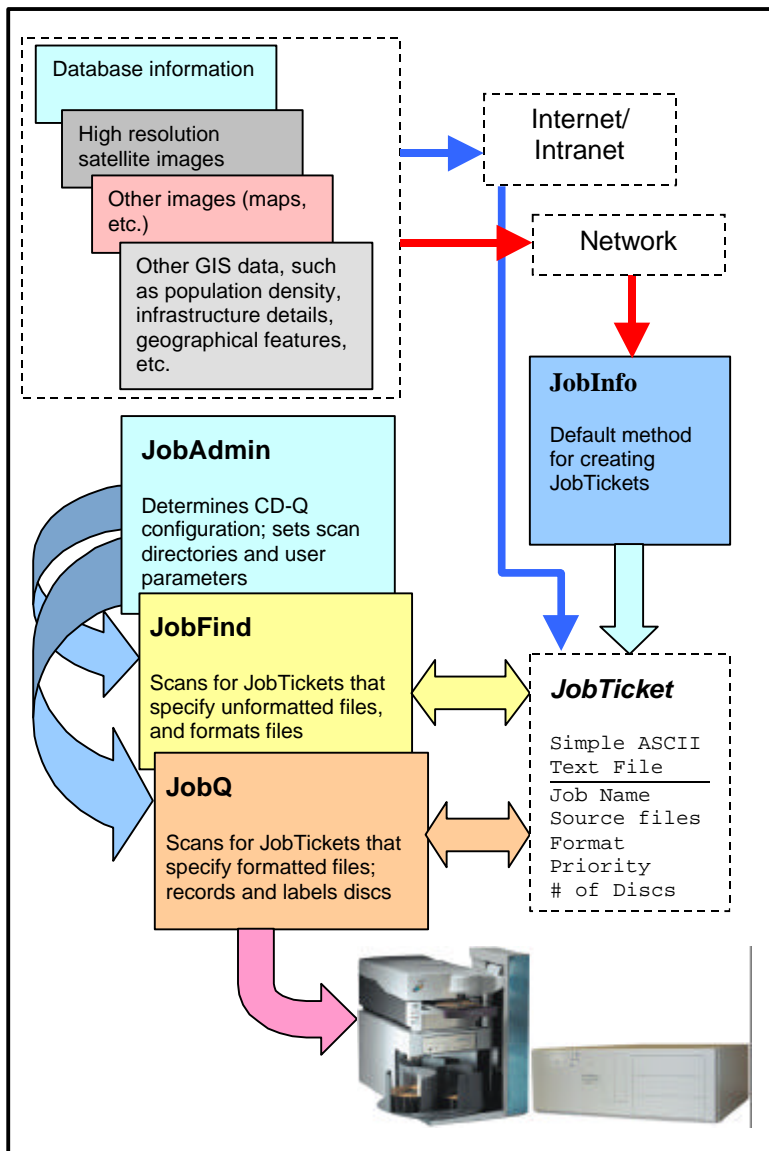
The JobTicket includes job-specific parameters such as the job name, user name, location of data for recording, labelling information for the completed disc, email address for job status notification, requested date/time for job completion, and job status.

The analogy of printing a paper document is somewhat misleading, however. CD creation requires the movement of large amounts of data (up to 700 MBs that could be scattered about the network) and data formatting; different OSs can require different formatting engines and transmitting unformatted data between differing OSs may result in unreadable discs.

When automated CD-R creation is done without scheduling and job prioritization tools, the impact on network bandwidth and system resources can be dramatic. Automated CD-R creation done

without the correct mastering tools can result in discs that are limited in functionality, or worse, that are unreadable. Automated CD-R creation done without auditing tools can result in security breaches and administration nightmares. CD-Q successfully addresses these, and other, automation issues.

Through JobTicket technology, CD-Q manages simultaneous requests for CDs from any user while control-ling



when data is brought across a network and how that data gets formatted. CD-Q queues and prioritizes jobs seamlessly, keeps a database of all completed CDs, notifies an end-user when a CD has been burned and labeled, and allows multiple managers/departments to independently administer their own information through separate job directories.

Young Minds award-winning CD-R and DVD-R solutions set the standard for quality, reliability, compatibility, and portability. Find out how you can use these solutions to cost-effectively distribute and archive your GIS data and applications.

Young Minds, Inc.

1906 Orange Tree Lane, #220
P.O. Box 6910
Redlands, CA 92375-0910

US Only: 800-YMI-4YMI (800-964-4964)

International: 909-335-1350

Fax: 909-798-0488

sales@ymi.com

www.ymi.com